




STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

PAT L. MCCRORY
GOVERNOR

ANTHONY J. TATA
SECRETARY

May 13, 2015

MEMORANDUM TO: Mr. Joseph Hopkins, PE
Division 5 Engineer

FROM:  Philip S. Harris, III, P.E.
Natural Environment Section
Project Development and Environmental Analysis Unit

SUBJECT: Durham County; East End Connector from NC 147 (Durham Freeway/Buck Dean Expressway) to north of NC 98 (Hollaway Street) in Durham; Federal Aid Project No. NHF-76-1(2); WBS Element 34745.1.1; **TIP U-0071**

Please find attached the modified U.S. Army Corps of Engineers Section 404 Individual Permit, as well as the modified N.C. Division of Water Resources (NCDWR) Section 401 Water Quality Certification, Isolated Wetlands Permit, and Neuse River Buffer Certification. All environmental permits have been received for the continued construction of this project.

A copy of this modified permit package will be posted on the NCDOT website at: <https://connect.ncdot.gov/resources/Environmental>, under *Quick Links > Issued Permits*

cc: w/o attachment (see website for attachments):
Mr. Randy Garris, P.E. State Contract Officer
Mr. Chris Murray, Division Environmental Officer
Dr. Majed Al-Ghandour, P. E., Programming and TIP
Mr. Roger Thomas, P.E., Roadway Design Unit
Mr. Robert Memory, Utilities Unit
Mr. Matt Lauffer, P.E., Hydraulics Unit
Mr. Tom Koch, P.E., Structure Design Unit
Mr. Mark Staley, Roadside Environmental Unit
Mr. Ron Hancock, P.E., State Roadway Construction Engineer
Mr. Mike Robinson, P.E., State Bridge Construction Engineer
Mr. Eric Midkiff, P.E., PDEA
Ms. Beth Harmon, NCEEP
Mr. Phillip Ayscue, Office of Inspector General

PROJECT COMMITMENTS

T.I.P. Project No. U-0071
East End Connector from NC 147 (Durham Freeway/Buck Dean Expressway) to
north of NC 98 (Holloway Street) in Durham
Durham County
Federal Aid Project No. NHF-76-1(2)
WBS Element 34745.1.1

COMMITMENTS FROM PROJECT DEVELOPMENT AND DESIGN

PDEA/Roadway Design

The NCDOT will coordinate with the City of Durham regarding providing destination signage along the East End Connector to attractions in east Durham.

The NCDOT will coordinate with the Durham Area Transit Authority (DATA) regarding delays and detours during construction, as well as potential relocations of bus stops on US 70 and Holloway Street.

NCDOT will attach conduit to the East End Connector bridges over Holloway Street and Angier Avenue.

Right-of-Way Branch

The NCDOT will mitigate the acquisition of 0.30 acres of parkland from C. R. Wood Park by acquiring land adjacent to the C. R. Wood Park and donating this land to the City of Durham Parks and Recreation Department in accordance with Section 6(f) of the Land and Water Conservation Fund Act. Prior to land donation, the NCDOT will remove the existing residence currently located on this property.

PDEA/Division 5

The NCDOT will also mitigate the acquisition of 0.30 acres of parkland from C. R. Wood Park by paving the C. R. Wood basketball courts or parking lot, in coordination with the City of Durham Parks and Recreation Department.

COMMITMENTS FROM PERMITTING

Division 5/ Hydraulics Unit

Any modifications to the 401 Water Quality Certification in the Jordan Basin portion that propose additional stream impacts or increased impervious surface requiring additional stormwater management may be subject the Jordan Water Supply Nutrient Strategy (15A

NCAC02B .0267). The NCDOT shall coordinate with the NCDWR prior to submitting a modification request to determine the applicability of the Jordan Water Supply Nutrient Strategy. This condition does not apply to major modifications for additional sections of the project that were covered under the Finding of No Significant Impact or approved in the Avoidance and Minimization stage of the project.

Permit Modification

No additional commitments have been added as a result of either the USACE permit modification, dated May 7, 2015, or the NCDWR permit modification, dated April 15, 2015.



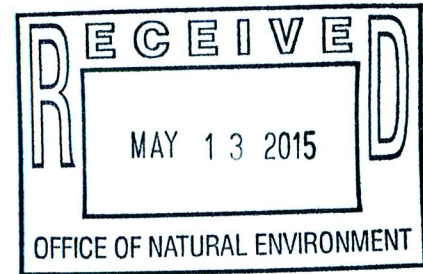
REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
WILMINGTON DISTRICT, CORPS OF ENGINEERS
69 DARLINGTON AVENUE
WILMINGTON, NORTH CAROLINA 28403-1343

May 07, 2015

Regulatory Division/1200A

Action ID: SAW-2011-00796; TIP No. U-0071



Richard W. Hancock, PE
NCDOT
Project Development and Environmental Analysis
Natural Environment Section
1598 Mail Service Center
Raleigh, North Carolina 27699-1598

Dear Mr. Hancock:

Reference the Department of the Army permit issued to the North Carolina Department of Transportation (NCDOT) on March 24, 2014, to authorize the discharge of fill material into waters of the United States, for construction of TIP No. U-0071; East End Connector; from US 147 between Ellis Road and Briggs Avenue, to NC 98 at US 70, in Durham County, North Carolina. Also, please reference your April 1, 2015 letter, requesting modification of the permit for a net increase of permanent riprap impacts to streams of 127 linear feet, and a net decrease of temporary impacts to streams of 65 linear feet. These changes in impacts result from revising the permit impact drawings to accurately reflect the contract construction drawings, at Permit Sites 7, 17, and 23. Additional mitigation is not proposed because the permanent riprap impacts will not cause a loss of stream.

We have reviewed the requested modification, and determined that it is appropriate and reasonable, and that no public notice is required for this modification. Therefore, the permit is hereby modified to authorize net increase of permanent riprap impacts to streams of 127 linear feet, and a net decrease of temporary impacts to streams of 65 linear feet, as shown on the enclosed Permit Drawings, Sheets 20, 21, 36, 37, 60, 61, 74, 75, 90 and 91, of 91, revised March 16, 2015.

All conditions of the permit, including the expiration date of December 31, 2019, and the mitigation requirements, remain applicable.

Should you have any questions, please call Mr. Eric Alsmeyer at (919) 554-4884, extension 23.

Sincerely,



for Kevin P. Landers
Colonel, U.S. Army
District Commander

Enclosure

Copies Furnished (without enclosure):

Ms. Amy Chapman
Division of Water Quality
North Carolina Department of
Environment and Natural Resources
1617 Mail Service Center
Raleigh, NC 27699-1617

Mr. Clarence Coleman
Federal Highway Administration
310 New Bern Ave., Rm 410
Raleigh, North Carolina 27601-1442

Ms. Rachelle Beauregarde
NCDOT
Project Development and Environmental Analysis
Natural Environment Section
1598 Mail Service Center
Raleigh, North Carolina 27699-1598



North Carolina Department of Environment and Natural Resources

Pat McCrory
Governor

Donald R. van der Vaart
Secretary

April 15, 2015

Mr. Richard W. Hancock, P.E., Manager
Project Development and Environmental Analysis
North Carolina Department of Transportation
1598 Mail Service Center
Raleigh, North Carolina, 27699-1598

Subject: Modification to the 401 Water Quality Certification Pursuant to Section 401 of the Federal Clean Water Act, NEUSE BUFFER RULES, and ISOLATED WETLANDS PERMIT Pursuant to IWGP100000 with ADDITIONAL CONDITIONS for Proposed East End Connector from US 70 to NC 147 in Durham County, Federal Aid Project No. NHF-76-1(2), State Project No.34745.1.1, TIP No U-0071.
NCDWR Project No. 20131282 ver. 2.

Dear Mr. Hancock:

Attached hereto is a modification of Certification No. 3980 issued to The North Carolina Department of Transportation (NCDOT) originally dated January 28, 2014.

If we can be of further assistance, do not hesitate to contact us.

Sincerely,

S. Jay Zimmerman, Director
Division of Water Resources

Attachments

Electronic copy only distribution:

Eric Alsmeyer, US Army Corps of Engineers, Raleigh Field Office
Chris Murray, Division 5 Environmental Officer
James Mason, NCDOT NEU
Beth Harmon, Division of Mitigation Services
File Copy



North Carolina Department of Environment and Natural Resources

Pat McCrory
Governor

Donald R. van der Vaart
Secretary

Modification to 401 Water Quality Certification Pursuant to Section 401 of the Federal Clean Water Act and NEUSE BUFFER RULES, with ADDITIONAL CONDITIONS

THIS CERTIFICATION is issued in conformity with the requirements of Section 401 Public Laws 92-500 and 95-217 of the United States and subject to the North Carolina Division of Water Resources (NCDWR) Regulations in 15 NCAC 2H .0500 and 15A NCAC 2B.0233. This certification authorizes the NCDOT to impact an additional 127 linear feet of jurisdictional streams and 5447 square feet of protected riparian buffers in Durham County. The project shall be constructed pursuant to the modification dated April 1, 2015. The authorized additional impacts are as described below:

Additional Stream Impacts in the Neuse River Basin

Site	Bank Stabilization to Perennial Stream (linear ft)	Temporary Impact to Perennial Stream (linear ft)	Total Additional Permanent Stream Impact (linear ft)	Additional Stream Impacts Requiring Mitigation (linear ft)
7	55	- 6 (decrease)	55	55
17	24	- 11 (decrease)	24	24
23	48	- 48 (decrease)	48	48
Total	127	- 65 (decrease)	127	127

Total Additional Permanent Stream Impact for Project: 127 linear feet

Additional Neuse Riparian Buffer Impacts

Site	Additional Zone 1 Impact (sq ft)	Additional Zone 1 Buffer Mitigation Required (using 3:1 ratio)	Additional Zone 2 Impact (sq ft)	Additional Zone 2 Buffer Mitigation Required (using 1.5:1 ratio)
4	2560	7680	135	203
6	1524	4572	1228	1842
Totals	4084	12252	1363	2045

Total Additional Buffer Impact for Project: 5447 square feet.

The application provides adequate assurance that the discharge of fill material into the waters of the Neuse and Cape Fear River Basins in conjunction with the proposed development will not result in a violation of applicable Water Quality Standards and discharge guidelines. Therefore, the State of North Carolina certifies that this activity will not violate the applicable portions of Sections 301, 302, 303, 306, 307 of PL 92-500 and PL 95-217 if conducted in accordance with the application and conditions hereinafter set forth.



North Carolina Department of Environment and Natural Resources

Pat McCrory
Governor

Donald R. van der Vaart
Secretary

This approval is only valid for the purpose and design that you submitted in your application received December 12, 2013 and modification request dated April 1, 2015. Should your project change, you are required to notify the NCDWR and submit a new application. If the property is sold, the new owner must be given a copy of this Certification and approval letter, and is thereby responsible for complying with all the conditions. If any additional wetland impacts, or stream impacts, for this project (now or in the future) exceed one acre or 150 linear feet, respectively, additional compensatory mitigation may be required as described in 15A NCAC 2H .0506 (h) (6) and (7). Additional buffer impacts may require compensatory mitigation as described in 15A NCAC 2B.0242(9). For this approval to remain valid, you are required to comply with all the conditions listed below. In addition, you should obtain all other federal, state or local permits before proceeding with your project including (but not limited to) Sediment and Erosion control, Coastal Stormwater, Non-discharge and Water Supply watershed regulations. This Certification shall expire on the same day as the expiration date of the corresponding Corps of Engineers Permit.

Conditions of Certification:

1. Compensatory mitigation for additional 127 linear feet of impact to streams is required. We understand that you have chosen to perform compensatory mitigation for impacts to streams through the North Carolina Division of Mitigation Service (DMS) (formerly NCEEP), and that the DMS has agreed to implement the mitigation for the project. The DMS has indicated in a letter dated March 31, 2015 that they will assume responsibility for satisfying the federal Clean Water Act compensatory mitigation requirements for the above-referenced project, in accordance with the DMS Mitigation Banking Instrument signed July 28, 2010.
2. Compensatory mitigation for additional impacts of 4084 square feet of protected riparian buffers in Zone 1 and 1363 square feet of protected riparian buffers in Zone 2 shall be required. We understand that you have chosen to perform compensatory mitigation for impacts to protected buffers through use of the North Carolina Division of Mitigation Services (DMS) (formerly NCEEP). Mitigation for unavoidable impacts to Neuse Riparian Buffers shall be provided in the Neuse River Basin and done in accordance with 15A NCAC .02B .0295. The DMS has indicated in a letter dated March 31, 2015 that they will assume responsibility for satisfying the compensatory mitigation requirements for the above-referenced project, in accordance with DMS's Mitigation Banking Instrument signed July 28, 2010.
3. This modification is applicable only to the additional proposed activities. All of the authorized activities and conditions of certification associated with the original Water Quality Certification dated January 28, 2014 still apply except where superseded by this certification.

Violations of any condition herein set forth may result in revocation of this Certification and may result in criminal and/or civil penalties. This Certification shall become null and void unless the above conditions are made conditions of the Federal 404 and/or Coastal Area Management Act Permit. This Certification shall expire upon the expiration of the 404 or CAMA permit.



North Carolina Department of Environment and Natural Resources

Pat McCrory
Governor

Donald R. van der Vaart
Secretary

If you wish to contest any statement in the attached Certification you must file a petition for an administrative hearing. You may obtain the petition form from the office of Administrative hearings. You must file the petition with the office of Administrative Hearings within sixty (60) days of receipt of this notice. A petition is considered filed when it is received in the office of Administrative Hearings during normal office hours. The Office of Administrative Hearings accepts filings Monday through Friday between the hours of 8:00am and 5:00pm, except for official state holidays. The original and one (1) copy of the petition must be filed with the Office of Administrative Hearings.

The petition may be faxed-provided the original and one copy of the document is received by the Office of Administrative Hearings within five (5) business days following the faxed transmission. The mailing address for the Office of Administrative Hearings is:

Office of Administrative Hearings
6714 Mail Service Center
Raleigh, NC 27699-6714
Telephone: (919)-431-3000, Facsimile: (919)-431-3100

A copy of the petition must also be served on DENR as follows:

Mr. Sam M. Hayes, General Counsel
Department of Environment and Natural Resources
1601 Mail Service Center

This the 15th day of April 2015

DIVISION OF WATER RESOURCES

S. Jay Zimmerman, Director
Division of Water Resources

WQC No. 3980



North Carolina Department of Environment and Natural Resources

Pat McCrory
Governor

Division of Mitigation Services

Donald R. van der Vaart
Secretary

March 31, 2015

Mr. Richard W. Hancock, P.E.
Manager, Project Development & Environmental Analysis Unit
North Carolina Department of Transportation
1548 Mail Service Center
Raleigh, North Carolina 27699-1548

Dear Mr. Hancock:

Subject: Mitigation Acceptance Letter:

U-0071, East End Connector from NC 147 (Buck Dean Fwy) to North of NC 98,
Durham County

References: USACE 404 Individual Permit issued March 24, 2014 (USACE Action ID 2011-00796)

NCDWR 401 Water Quality Certification issued January 28, 2014 (NCDWR Project ID 2013-1282)

The purpose of this letter is to notify you that the Division of Mitigation Services (DMS) will provide the additional buffer mitigation for the subject project. Based on the information supplied by you on March 30, 2015, the additional buffer impacts are located in CU 03020201 of the Neuse River Basin in the Central Piedmont (CP) Eco-Region, and are as follows:

Table 1 – Additional Impacts (feet / acres)

Neuse 03020201 CP	Stream			Wetlands			Buffer (Sq. Ft.)	
	Cold	Cool	Warm	Riparian	Non-Riparian	Coastal Marsh	Zone 1 (3:1)	Zone 2 (1.5:1)
Impacts (feet/acres)	0	0	0	0	0	0	4,084.0	1,363.0

All buffer mitigation requests and approvals are administrated through the Riparian Restoration Buffer Fund. The NCDOT will be responsible to ensure that appropriate compensation for the buffer mitigation will be provided in the agreed upon method of fund transfer. Upon receipt of the NCDWR's Buffer Authorization Certification, DMS will transfer funds from the NCDOT 2984 Fund into the Riparian Restoration Buffer Fund. Upon completion of transfer payment, NCDOT will have completed its addition riparian buffer mitigation responsibility for TIP Number U-0071. These additional impacts and associated mitigation needs were not projected by the NCDOT in the 2015 impact data. DMS is currently providing stream and riparian wetland mitigation for the impacts associated with this project located in cataloging unit 03030002 of the Cape Fear River basin and cataloging unit 03020201 of the Neuse River basin as required by the 404 and 401 permits that were issued in 2014, as shown in the below table (in mitigation credits):

Mr. Hancock
 TIP U-0071 Additional
 March 31, 2015
 Page Two

Table 2 – Current Permitted Impacts and Mitigation Requirements (based on 2014 permits) and Revised Anticipated Impacts (based on mitigation request)

Neuse 03020201

Impact Type	Total Permitted Impacts (feet / acre)	Mitigation Provided by DMS per Issued Permits (Credits)	Additional Impact (for approval)	Revised Total Impacts*
Stream	1,424.0	2,848.0	0	1,424.0
Riparian Wetland	0.19	0.38	0	0.19
Buffer – Zone 1	345,198.0 sq ft	1,035,594.0 sq ft	4,054.0 sq ft	349,282.0 sq ft
Buffer – Zone 2	239,938.0 sq ft	359,907.0 sq ft	1,363.0 sq ft	241,301.0 sq ft

Cape Fear 03030002

Impact Type	Total Permitted Impacts (feet / acre)	Mitigation Provided by DMS per Issued Permits (Credits)	Additional Impact (for approval)	Revised Total Impacts*
Stream	440.0	880.0	0	440.0

*Some of the stream and wetland impacts may be proposed to be mitigated at a 1:1 mitigation ratio. See permit application for details. DMS will provide the amount of mitigation as determined by the regulatory agencies.

DMS has previously made debits for the stream and riparian wetland mitigation requirements to mitigation sites available in the cataloging units based on the amounts required in the 404 and 401 permits issued in 2014. The riparian buffer mitigation was paid on February 11, 2014 and the buffer mitigation requirement is not yet due. Upon issuance of the permit modifications for the project, DMS will make appropriate adjustments to the existing mitigation debits.

If you have any questions or need additional information, please contact Ms. Beth Harmon at 919-707-8420.

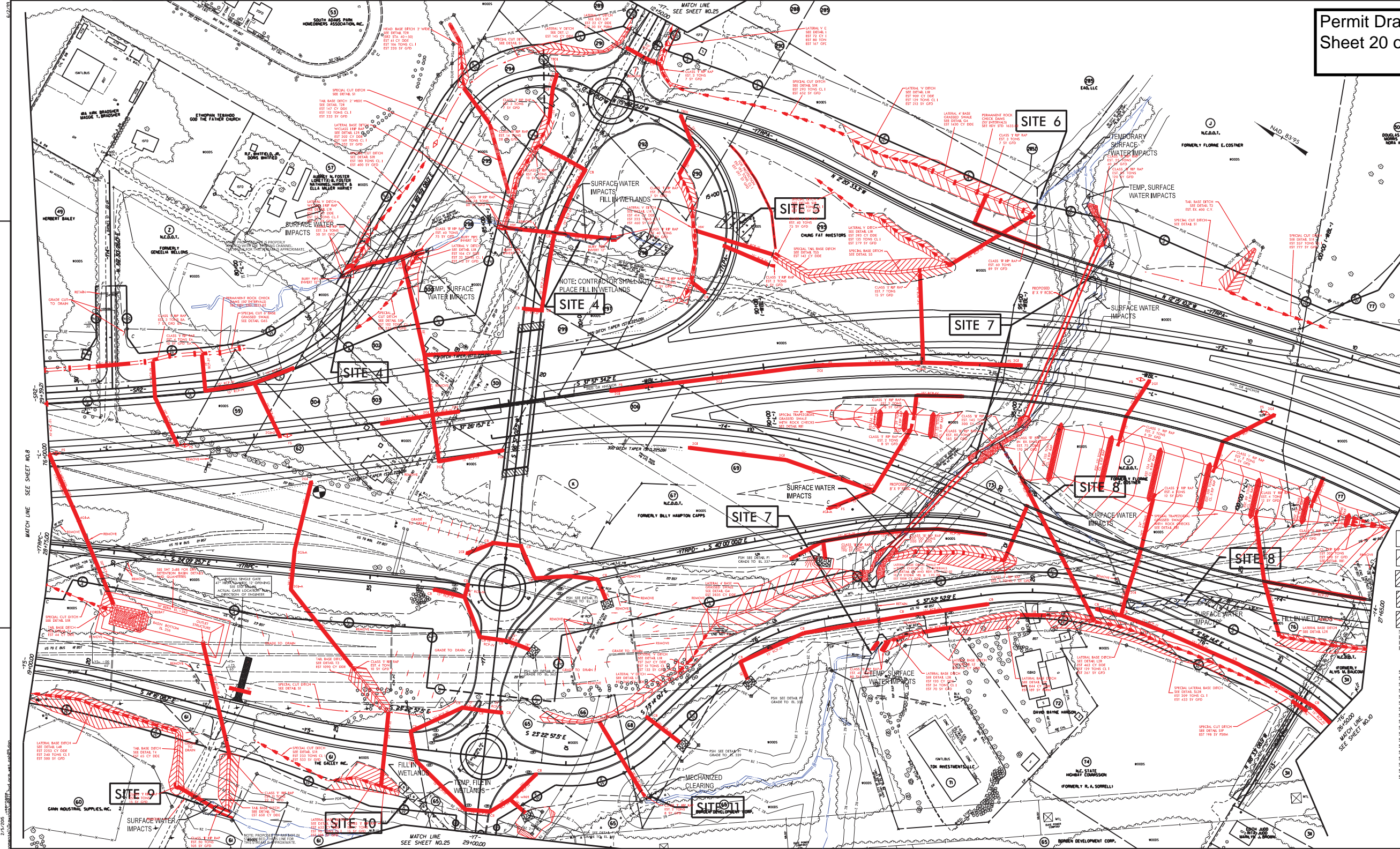
Sincerely,

James B. Stanfill
 DMS Asset Management Supervisor

Cc: Mr. Eric Alsmeyer, USACE – Raleigh Regulatory Field Office
 Mr. Rob Ridings, NC Division of Water Resources
 File: U-0071 Additional

Permit Drawing Sheet 20 of 91

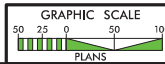
PROJECT REFERENCE NO. 17-0071	SHEET NO. 20
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS	
M A Engineering Consultants, Inc.	
<small>188 East Chatham Street, Suite 117, Cary, NC, 27511 Phone: 919.270.0200 Fax: 919.270.0201</small>	



- DENOTES MECHANIZED CLEARING
- DENOTES FILL IN WETLAND
- DENOTES IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY FILL IN WETLAND

NOTE: LOCATIONS OF CR SYMBOLS ARE APPROXIMATE. REFER TO THE PAVEMENT MARKING PLANS FOR EXACT LOCATIONS.

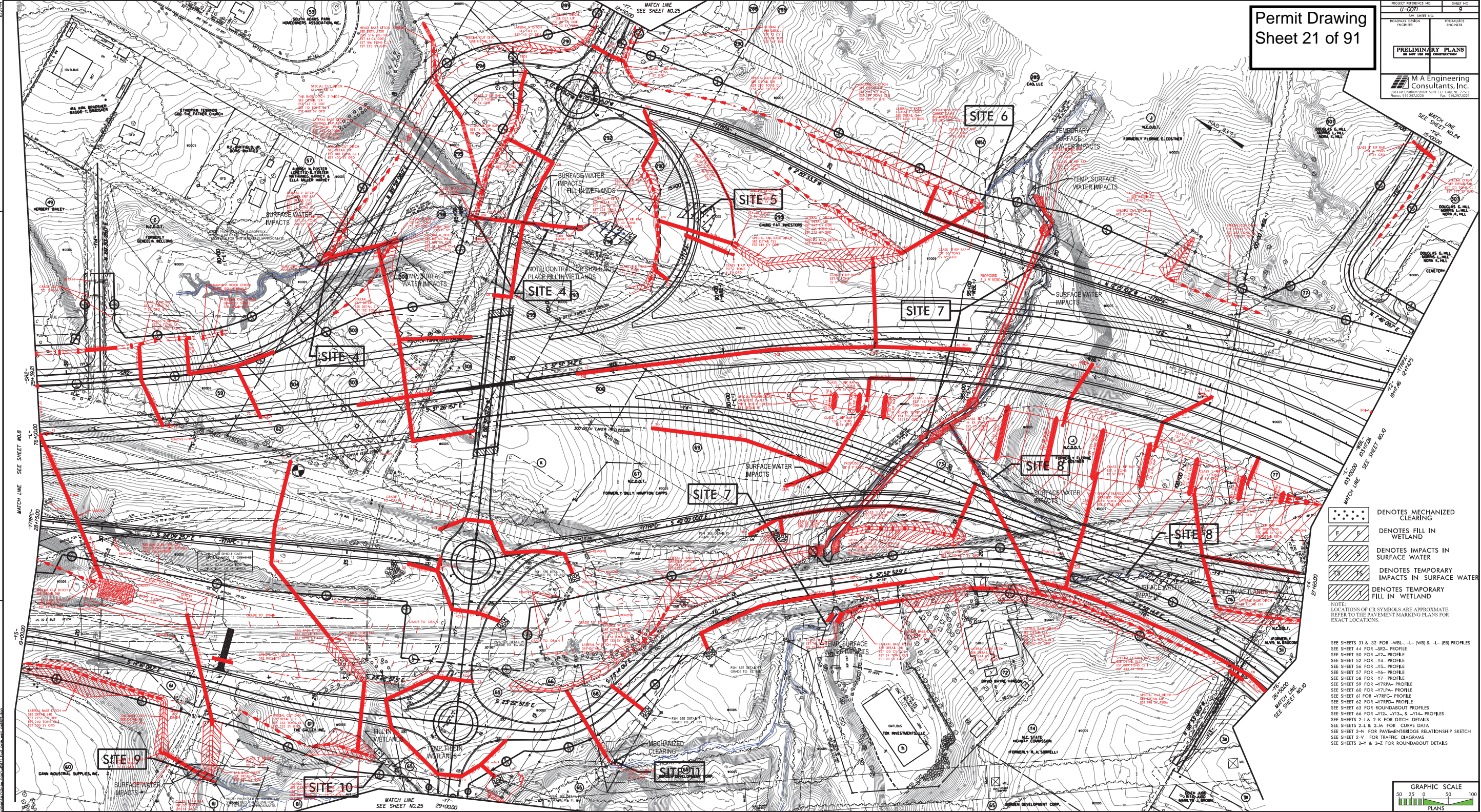
SEE SHEETS 31 & 32 FOR -WB-, -L-, (WB) & -L- (EB) PROFILES
 SEE SHEET 44 FOR -SR2- PROFILE
 SEE SHEET 50 FOR -Y2- PROFILE
 SEE SHEET 52 FOR -Y4- PROFILE
 SEE SHEET 56 FOR -Y5- PROFILE
 SEE SHEET 57 FOR -Y6- PROFILE
 SEE SHEET 58 FOR -Y7- PROFILE
 SEE SHEET 59 FOR -Y7RA- PROFILE
 SEE SHEET 60 FOR -Y7PA- PROFILE
 SEE SHEET 61 FOR -Y7RC- PROFILE
 SEE SHEET 62 FOR -Y7RD- PROFILE
 SEE SHEET 63 FOR ROUNDABOUT PROFILES
 SEE SHEET 64 FOR -Y13-, -Y13A-, & -Y14- PROFILES
 SEE SHEETS 2-J & 2-K FOR DITCH DETAILS
 SEE SHEETS 2-L & 2-M FOR CURVE DATA
 SEE SHEET 2-N FOR PAYMENT/BRIDGE RELATIONSHIP SKETCH
 SEE SHEET 2-V FOR TRAFFIC DIAGRAMS
 SEE SHEETS 2-Y & 2-Z FOR ROUNDABOUT DETAILS








2/17/2015
 M:\Projects\17-0071\Drawings\17-0071-20.dwg
 R:\piper\miller\PERMITS\17-0071-20.dwg

**Permit Drawing
Sheet 21 of 91**

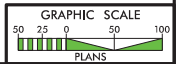
PROJECT REFERENCE NO. **17-0271** SHEET NO. **21**
 ROADWAY DESIGN ENGINEER
PRELIMINARY PLANS
 M A Engineering
 Consultants, Inc.
 158 East Chatham Street, Suite 117, Cary, NC, 27511
 Phone: 919.257.0232 Fax: 919.257.0221



-  DENOTES MECHANIZED CLEARING
-  DENOTES FILL IN WETLAND
-  DENOTES IMPACTS IN SURFACE WATER
-  DENOTES TEMPORARY IMPACTS IN SURFACE WATER
-  DENOTES TEMPORARY FILL IN WETLAND

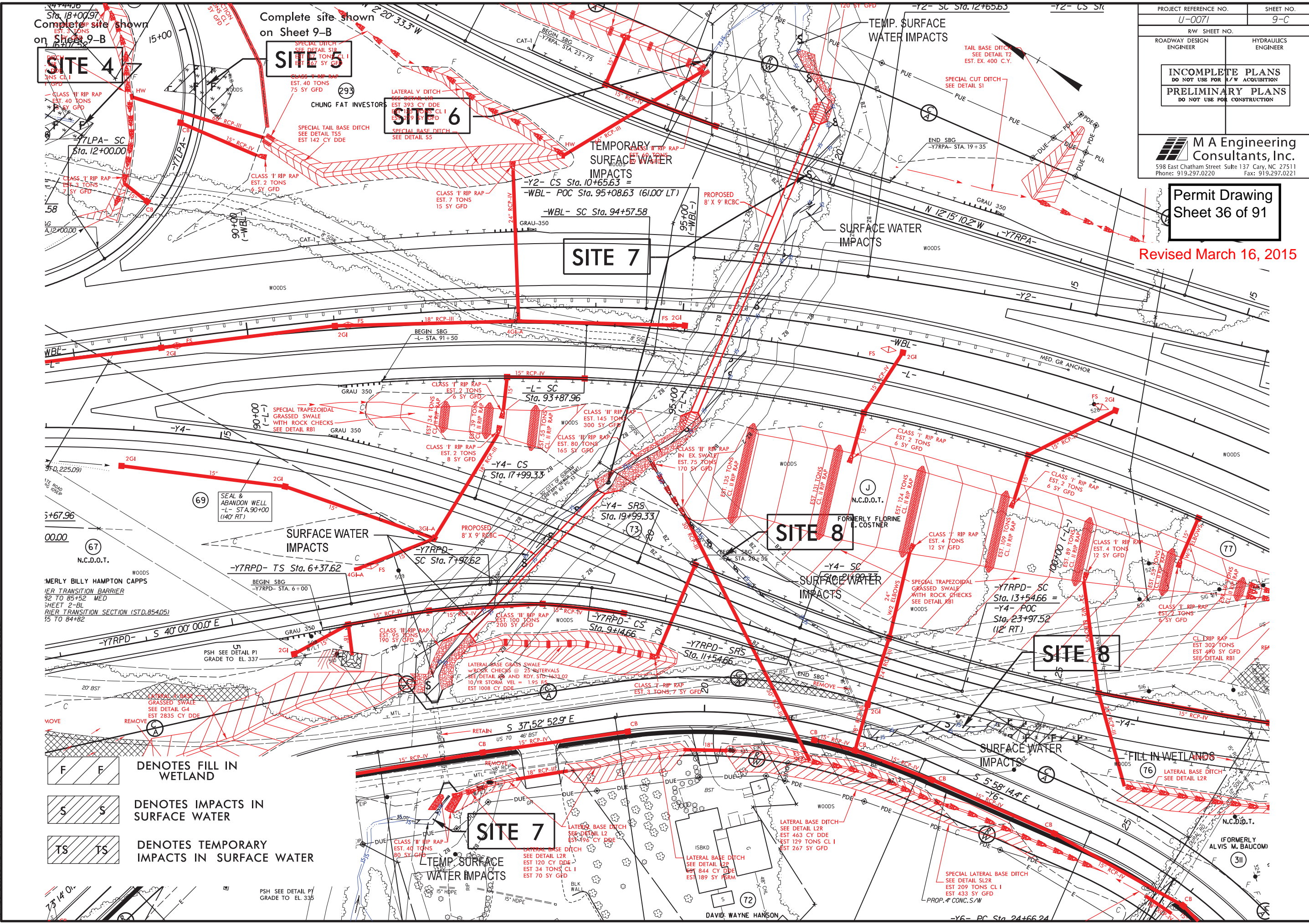
NOTE:
 LOCATIONS OF CR SYMBOLS ARE APPROXIMATE.
 REFER TO THE PAVEMENT MARKING PLANS FOR
 EXACT LOCATIONS.




SEE SHEETS 31 & 32 FOR -WB-, -L-, (WB) & -L- (EB) PROFILES
 SEE SHEET 44 FOR -SR2- PROFILE
 SEE SHEET 50 FOR -Y2- PROFILE
 SEE SHEET 52 FOR -Y4- PROFILE
 SEE SHEET 56 FOR -Y5- PROFILE
 SEE SHEET 57 FOR -Y6- PROFILE
 SEE SHEET 58 FOR -Y7- PROFILE
 SEE SHEET 59 FOR -Y7PA- PROFILE
 SEE SHEET 60 FOR -Y7PA- PROFILE
 SEE SHEET 61 FOR -Y7RC- PROFILE
 SEE SHEET 62 FOR -Y7RD- PROFILE
 SEE SHEET 63 FOR ROUNDABOUT PROFILES
 SEE SHEET 64 FOR -Y7A-, -Y7B-, & -Y7A- PROFILES
 SEE SHEETS 2-J & 2-K FOR DITCH DETAILS
 SEE SHEETS 2-L & 2-M FOR CURVE DATA
 SEE SHEET 2-N FOR PAYMENT/BRIDGE RELATIONSHIP SKETCH
 SEE SHEET 2-V FOR TRAFFIC DIAGRAMS
 SEE SHEETS 2-Y & 2-Z FOR ROUNDABOUT DETAILS



Permit Drawing
 Sheet 36 of 91


Revised March 16, 2015



 DENOTES FILL IN WETLAND
 DENOTES IMPACTS IN SURFACE WATER
 DENOTES TEMPORARY IMPACTS IN SURFACE WATER

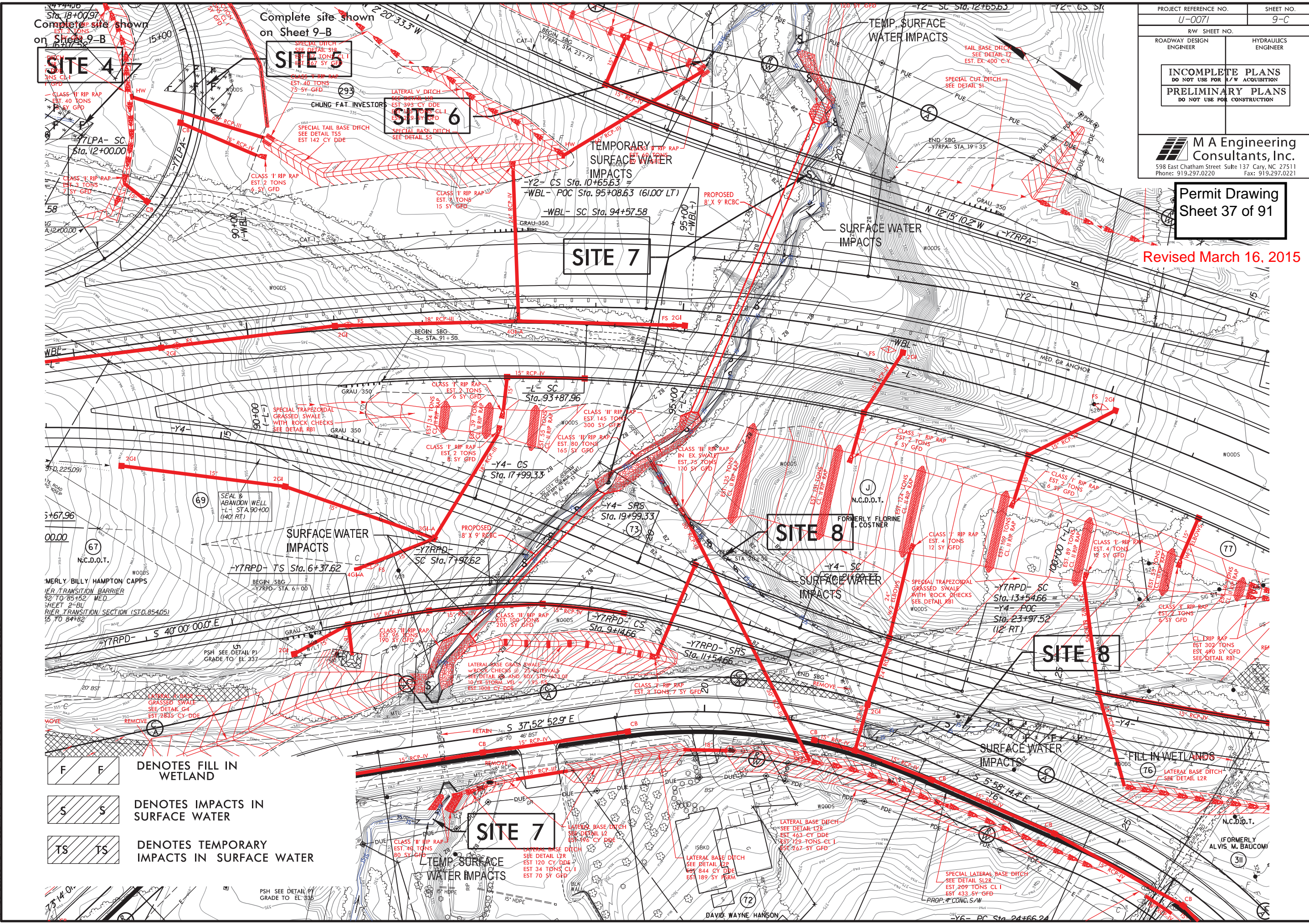
REVISIONS

2/5/2015
 User: name_...
 Environmental\Drawings\0071_bud_crm_wat_ast\0071.dwg

PROJECT REFERENCE NO. U-0071	SHEET NO. 9-C
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR A/W ACQUISITION PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	
 M A Engineering Consultants, Inc. 598 East Chatham Street Suite 137 Cary, NC 27511 Phone: 919.297.0220 Fax: 919.297.0221	

Permit Drawing
Sheet 37 of 91

Revised March 16, 2015



- F F
 DENOTES FILL IN WETLAND
- S S
 DENOTES IMPACTS IN SURFACE WATER
- TS TS
 DENOTES TEMPORARY IMPACTS IN SURFACE WATER

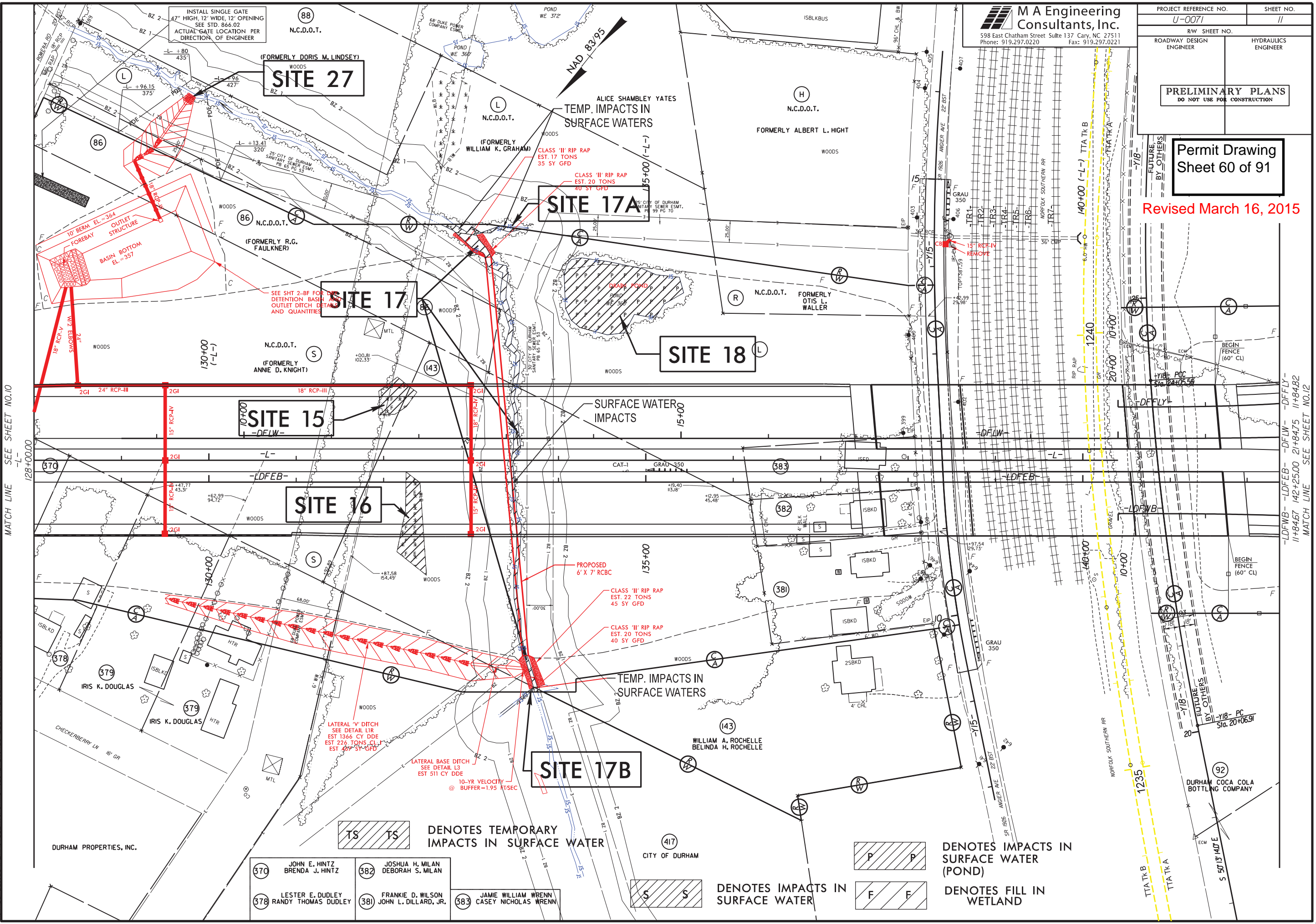
REVISIONS

8/17/99
 2/5/2015
 User: name_...
 Environmental\Drawings\0071_bud_crm_wet_ast09C.dwg

Permit Drawing
Sheet 60 of 91

Revised March 16, 2015

REVISIONS
 8/17/99
 7/02 RFP PARCEL NOS. 92 & 93 COMBINED INTO PARCEL NO. 92 AND PARCEL NAME CHANGED TO "DURHAM COCA COLA BOTTLING COMPANY". PARCEL NOS. 92 & 93 COMBINED INTO PARCEL NO. 379. PARCEL NO. 85 REVISSED TO "S". PARCEL NO. 87 REVISSED TO "1". PARCEL NO. 90 REVISSED TO "4".
 2/20/2015
 User name: Environmental.D.D. Drawings\0071_bud_cocm_wat_estab11.dwg
 Environmental.PERMITES



370 JOHN E. HINTZ BRENDA J. HINTZ	382 JOSHUA H. MILAN DEBORAH S. MILAN
378 LESTER E. DUDLEY RANDY THOMAS DUDLEY	381 FRANKIE D. WILSON JOHN L. DILLARD, JR.
383 JAMIE WILLIAM WRENN CASEY NICHOLAS WRENN	

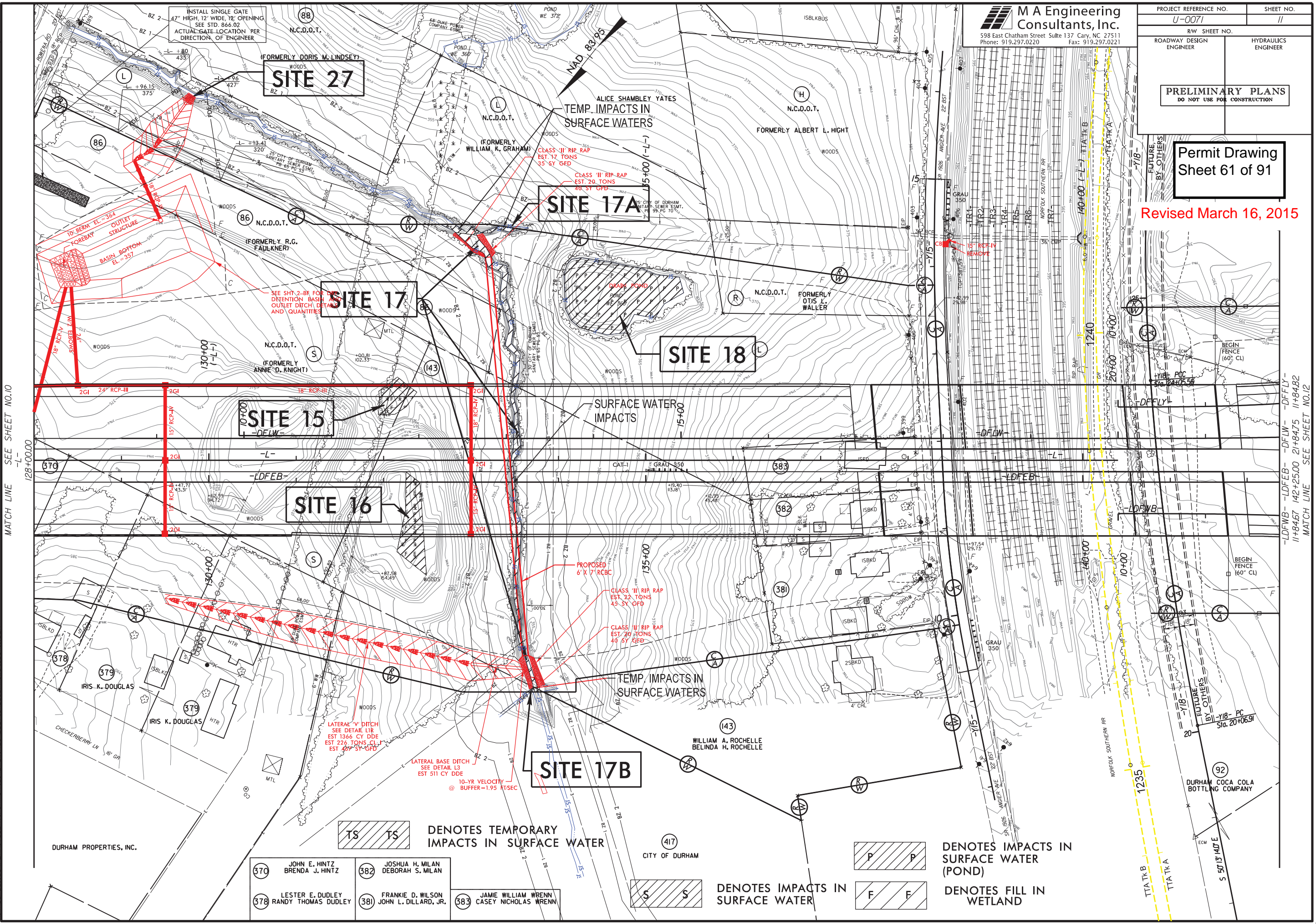
MATCH LINE SEE SHEET NO. 10
 MATCH LINE SEE SHEET NO. 12

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

Permit Drawing
Sheet 61 of 91

Revised March 16, 2015

REVISIONS
 8/17/99
 7/02 RFP PARCELS NOS. 92 & 93 COMBINED INTO PARCEL NO. 92 AND PARCEL NAME CHANGED TO "DURHAM COCA COLA BOTTLING COMPANY". PARCELS NOS. 379 & 380 COMBINED INTO PARCEL NO. 379. PARCEL NO. 85 REVISSED TO "S". PARCEL NO. 87 REVISSED TO "T". PARCEL NO. 90 REVISSED TO "W".
 PARCEL NO. 384 REVISSED TO "R".
 2/20/2015
 User name: Environmental\J.D. Devanos\0071_bud_cocm_wat_estab11.dwg




TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER

S S DENOTES IMPACTS IN SURFACE WATER

P P DENOTES IMPACTS IN SURFACE WATER (POND)

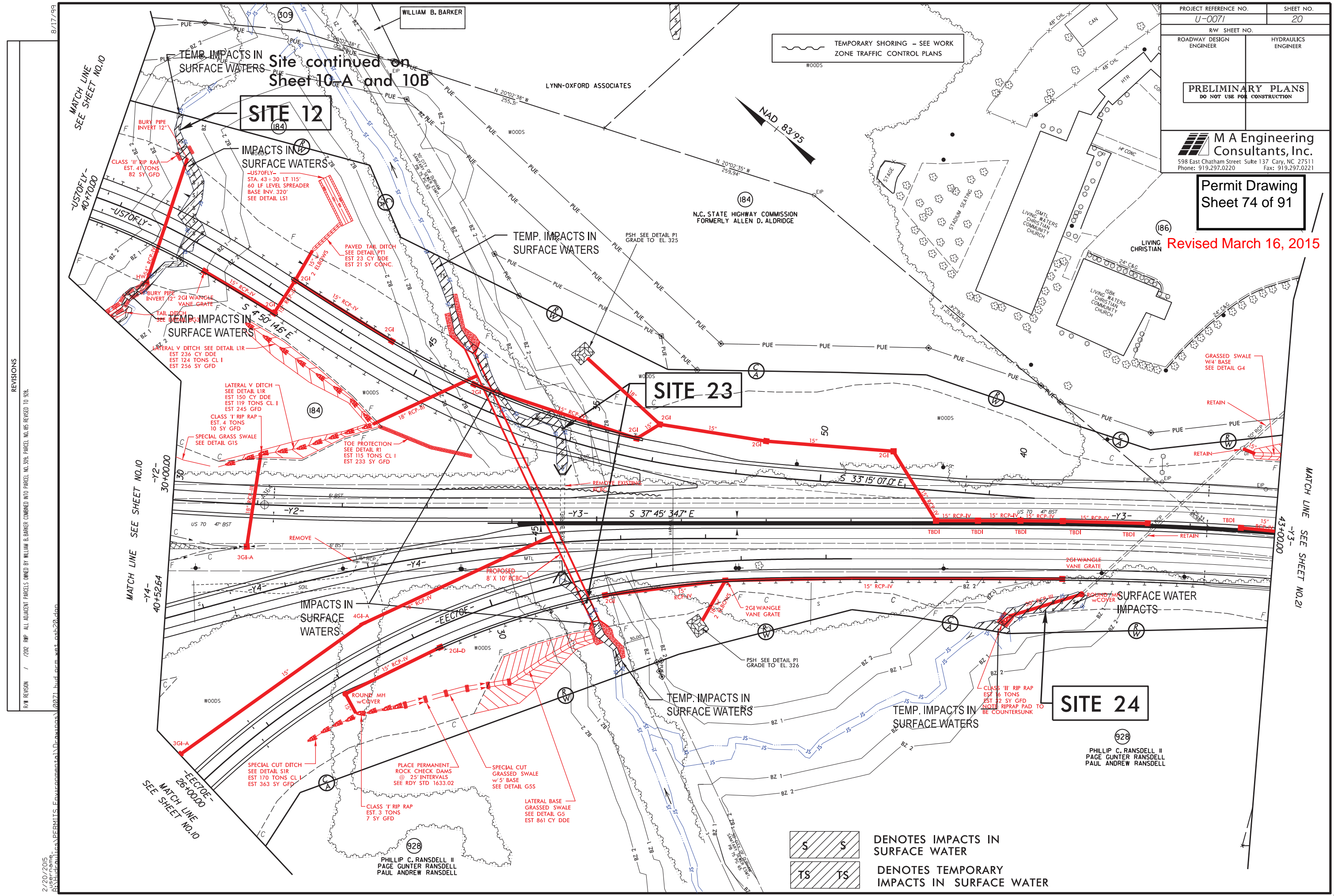
F F DENOTES FILL IN WETLAND

- | | |
|---|---|
| 370 JOHN E. HINTZ
BRENDA J. HINTZ | 382 JOSHUA H. MILAN
DEBORAH S. MILAN |
| 378 LESTER E. DUDLEY
RANDY THOMAS DUDLEY | 381 FRANKIE D. WILSON
JOHN L. DILLARD, JR. |
| 383 JAMIE WILLIAM WRENN
CASEY NICHOLAS WRENN | |

PROJECT REFERENCE NO. U-0071	SHEET NO. 20
RW SHEET NO. ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	
 M A Engineering Consultants, Inc. 598 East Chatham Street Suite 137 Cary, NC 27511 Phone: 919.297.0220 Fax: 919.297.0221	


Permit Drawing
Sheet 74 of 91

Revised March 16, 2015



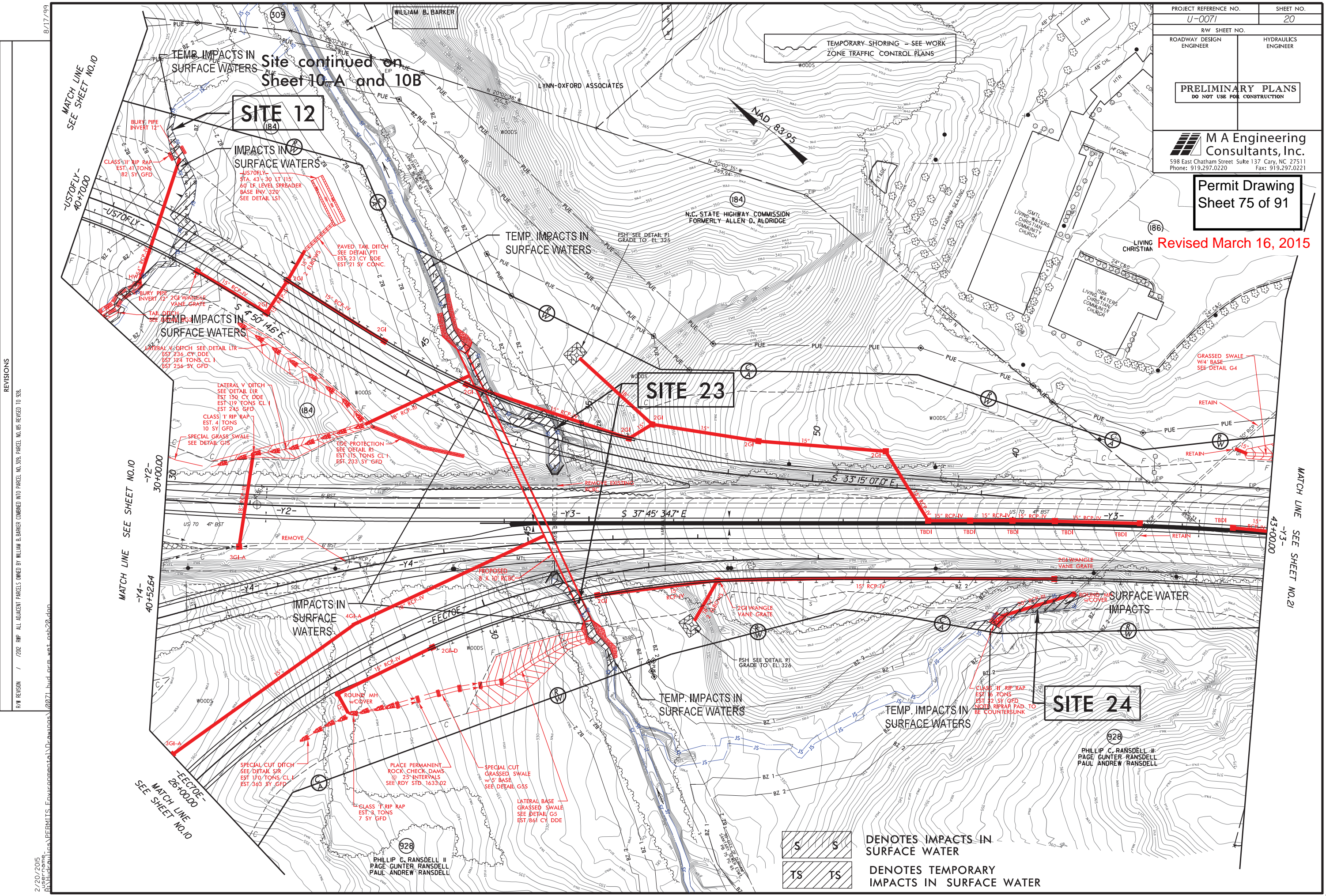
REVISIONS
 2/20/2015
 User: name_...
 7202 RHP ALL ADJACENT PARCELS OWNED BY WILLIAM B. BARKER COMBINED INTO PARCEL NO. 309. PARCEL NO. 185 REVISED TO 302.
 Environmental\Drawings\0071_bud_crm_wat_est20.dwg

S S	DENOTES IMPACTS IN SURFACE WATER
TS TS	DENOTES TEMPORARY IMPACTS IN SURFACE WATER

PROJECT REFERENCE NO. U-0071	SHEET NO. 20
RW SHEET NO. ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	
 M A Engineering Consultants, Inc. 598 East Chatham Street Suite 137 Cary, NC 27511 Phone: 919.297.0220 Fax: 919.297.0221	

Permit Drawing
Sheet 75 of 91

Revised March 16, 2015



8/17/99
 REVISIONS
 2/20/2015
 User: name_...
 7202 RHP ALL ADJACENT PARCELS OWNED BY WILLIAM B. BARKER COMBINED INTO PARCEL NO. 309. PARCEL NO. 185 REVISED TO 302.
 Environmental\Drawings\0071_bud_crm_wat_est.dwg

S	S	DENOTES IMPACTS IN SURFACE WATER
TS	TS	

DENOTES TEMPORARY IMPACTS IN SURFACE WATER

WETLAND PERMIT IMPACT SUMMARY												
Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS					SURFACE WATER IMPACTS				
			Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
1	L 32+58 to 36+64	FILL						0.04		412		
2	L 37+75 - SR1 34+84 Y17 11+14	66" RCP-IV, 48"RCP-III, 24"RCP-III	0.08					0.07	<0.01	673	14	
		BANK STABILIZATION								20		
3	L 44+53	30" RCP-III	0.06					0.06		410		
* 4	SR2 36+89 Y7 17+24	48" RCP-III, 60" RCP-III	0.05					0.03	<0.01	349	15	
		BANK STABILIZATION								70		
* 5(T)	Y7LPA 13+98	60" RCP-III	0.06									
6	Y7RPA 21+78	66" RCP-III							<0.01		15	
7	Y7RPA 20+75 to Y6 15+90	8'x9' RCBC						0.17	0.01	665	104	
		BANK STABILIZATION								305		
8	Y4 19+63 to 22+30 and Y4 23+04 to 25+59	30" RCP-III, FILL	0.04					0.07		443		
9	Y5 23+20 RT.	30" RCP-III						0.03	<0.01	29	0	
		BANK STABILIZATION								43		
10	Y5 26+62 RT.	FILL	0.01	0.01								
11	Y6 11+15 off 104 RT.	18" RCP-III					<0.01					
12	Y2 26+53 to 27+90 LT.	48" RCP-III & RECHANNELIZATION						0.11	0.03	705	132	
		BANK STABILIZATION								42		
13(T)	Y4 35+48	36" RCP-IV						0.78				
* 14(T)	L 122+93	30" RCP-V	0.08									
* 15(T)	L 132+13	FILL	0.03									
* 16(T)	L 132+33 RT.	FILL	0.05									
17	L 133+41	6'x7' RCBC						0.06	<0.01	479	28	
		BANK STABILIZATION								85		
17A	L 133+26 264' LT	FILL							<0.01		56	
TOTALS:			0.46	0.01			<0.01	1.42	0.04	4730	364	

*Rounded totals are sum of actual impacts

NOTES:

* indicates isolated wetland

(T) Indicates Total Take

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

DURHAM COUNTY
WBS - 34745.1.1 (U-0071)

WETLAND PERMIT IMPACT SUMMARY												
Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS					SURFACE WATER IMPACTS				
			Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
17B	L 133+69 263' RT	FILL							<0.01		7	
18(T)	L 134+53 LT.	FILL						0.19				
19	not jurisdictional	0										
20	DFLW 27+34 to 38+06	42" RCP-III						0.02	<0.01	218	17	
21	DFLW 39+19	FILL						0.01		28		
22	DFLW 41+62	FILL						0.01		23		
23	Y3 34+45	8'x10' CULVERT						0.08	0.02	280	76	
		BANK STABILIZATION								127		
24	Y3 40+16.69 RT	30" RCP-III						0.04	0.01	104	23	
25	Y9 28+10 LT to 26+85 RT	66" RCP-III						0.01	<0.01	168	10	
		BANK STABILIZATION								35		
26	Y3 57+75 LT to RT	60" RCP-III						0.01	<0.01	50	23	
		BANK STABILIZATION								50		
27	L 129+77 414LT.	BANK STABILIZATION								10		
28	DFLW 52+08 LT & RT	36" RCP						0.02	0.01	121	20	
29	DFLW 72+35 LT	FILL						< 0.01		40		
30	DFLW 73+72 LT	FILL						< 0.01		10		
31	DFLW 78+76 LT& 81+14 RT	BANK STABILIZATION								61		
		Construction Activity							<0.01		22	
32	DFLW 78+79 LT	Construction Activity							<0.01		9	
TOTALS (page 2 of 2):			0.00	0.00		0.00		0.39	0.04	1325	207	
TOTALS (page 1 of 2):			0.46	0.01		<0.01		1.42	0.04	4730	364	
TOTALS:			0.46	0.01		<.0.01		1.81	0.09	6055	571	

*Rounded totals are sum of actual impacts

NOTES:

* indicates isolated wetland

(T) Indicates Total Take

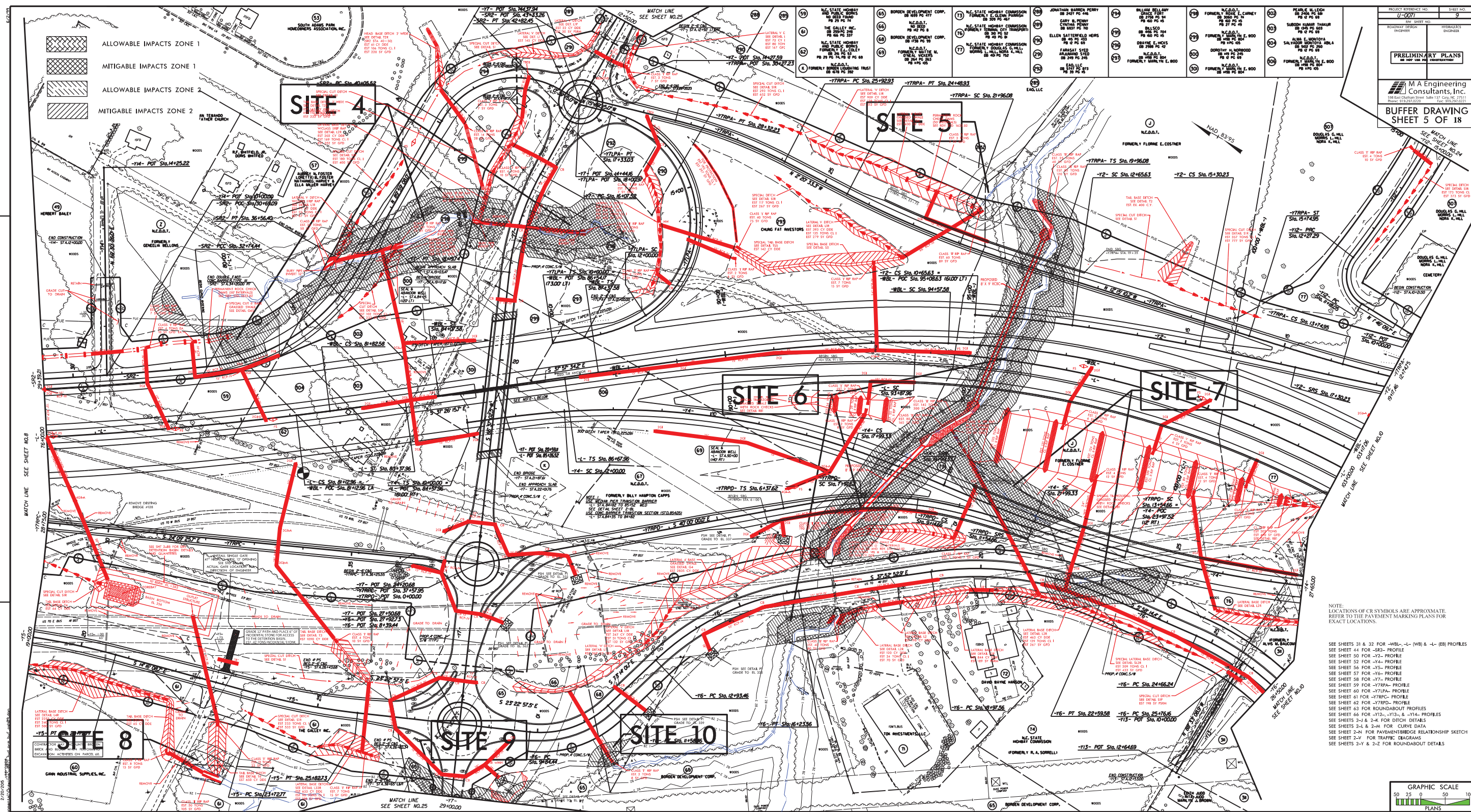
NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

DURHAM COUNTY
WBS - 34745.1.1 (U-0071)

SHEET 91 of 91

3/5/2015

Revised March 16, 2015

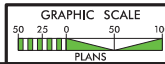


- ALLOWABLE IMPACTS ZONE 1
- MITIGABLE IMPACTS ZONE 1
- ALLOWABLE IMPACTS ZONE 2
- MITIGABLE IMPACTS ZONE 2

PROJECT REFERENCE NO. 17-0271
 SHEET NO. 7
 ROADWAY DESIGN ENGINEER
PRELIMINARY PLANS
 M A Engineering Consultants, Inc.
 188 East Chatham Street, Suite 117, Cary, NC, 27511
 Phone: 919.232.0239 Fax: 919.232.0201
BUFFER DRAWING SHEET 5 OF 18

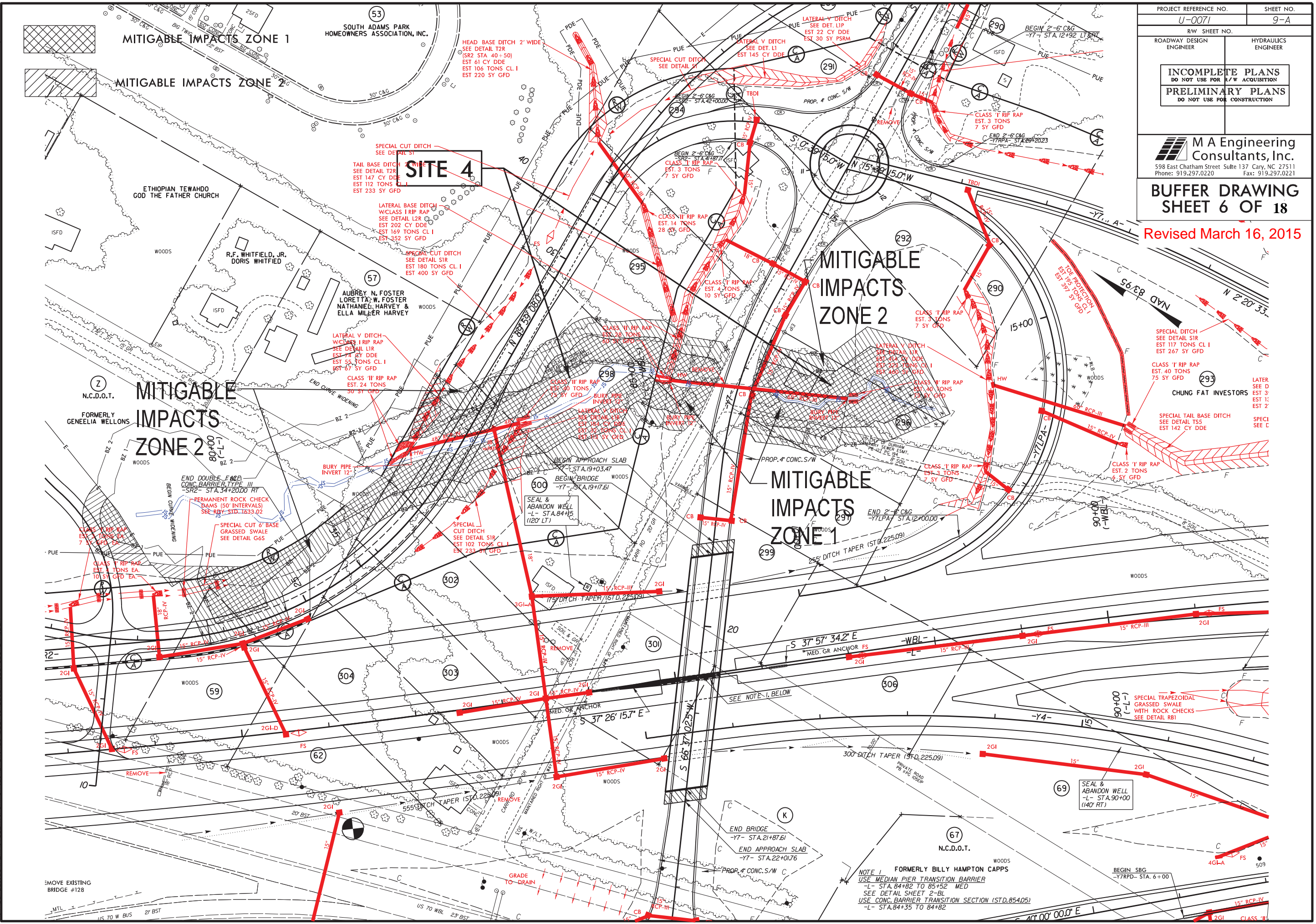
NOTE:
 LOCATIONS OF CR SYMBOLS ARE APPROXIMATE.
 REFER TO THE PAVEMENT MARKING PLANS FOR EXACT LOCATIONS.

SEE SHEETS 31 & 32 FOR -WB-, -L- (WB) & -L- (EB) PROFILES
 SEE SHEET 44 FOR -SR2- PROFILE
 SEE SHEET 50 FOR -Y2- PROFILE
 SEE SHEET 52 FOR -Y4- PROFILE
 SEE SHEET 56 FOR -Y5- PROFILE
 SEE SHEET 57 FOR -Y6- PROFILE
 SEE SHEET 58 FOR -Y7- PROFILE
 SEE SHEET 59 FOR -Y7RPA- PROFILE
 SEE SHEET 60 FOR -Y7LPA- PROFILE
 SEE SHEET 61 FOR -Y7RPA- PROFILE
 SEE SHEET 62 FOR -Y7RPA- PROFILE
 SEE SHEET 63 FOR ROUNDABOUT PROFILES
 SEE SHEET 64 FOR -Y73-, -Y73- & -Y74- PROFILES
 SEE SHEETS 2-1 & 2-4 FOR CURVE DATA
 SEE SHEET 2-4 FOR PAYMENT/BRIDGE RELATIONSHIP SKETCH
 SEE SHEET 2-V FOR TRAFFIC DIAGRAMS
 SEE SHEETS 2-Y & 2-Z FOR ROUNDABOUT DETAILS



2/10/2015
 M:\Projects\17-0271\17-0271-05.dwg
 R:\piper\miller\PERMITS\17-0271-05.dwg

Revised March 16, 2015



REVISIONS

8/17/99

2/20/2015
 User: home...
 Environmental\Drawings\0071_bud.com_bud_esta09A.dwg

REMOVE EXISTING BRIDGE #128

NOTE 1
 FORMERLY BILLY HAMPTON CAPPS
 USE MEDIAN PIER TRANSITION BARRIER
 -L- STA. 84+82 TO 85+52 MED
 SEE DETAIL SHEET 2-BL
 USE CONC. BARRIER TRANSITION SECTION (STD. 854.05)
 -L- STA. 84+35 TO 84+82

SEAL & ABANDON WELL
 -L- STA. 90+00
 (140' RT)

SEAL & ABANDON WELL
 -L- STA. 84+15
 (120' LT)

N.C.D.O.T.

N.C.D.O.T.

MITIGABLE IMPACTS ZONE 2

MITIGABLE IMPACTS ZONE 2

MITIGABLE IMPACTS ZONE 1

MITIGABLE IMPACTS ZONE 1

MITIGABLE IMPACTS ZONE 2

SITE 4

SOUTH ADAMS PARK HOMEOWNERS ASSOCIATION, INC.

ETHIOPIAN TEWAHDO GOD THE FATHER CHURCH

R.F. WHITFIELD, JR. DORIS WHITFIELD

AUBREY N. FOSTER LORETTA W. FOSTER NATHANIEL HARVEY & ELLA MILLER HARVEY

FORMERLY GENEALIA WELTONS

CHUNG FAT INVESTORS

END BRIDGE -Y7- STA. 21+87.61

END APPROACH SLAB -Y7- STA. 22+01.76

BEGIN SBG -Y7RPD- STA. 6+00

END BRIDGE -Y7- STA. 21+87.61

END APPROACH SLAB -Y7- STA. 22+01.76

BEGIN SBG -Y7RPD- STA. 6+00


US 70 W BUS 2' BST

US 70 WBL 23' BST

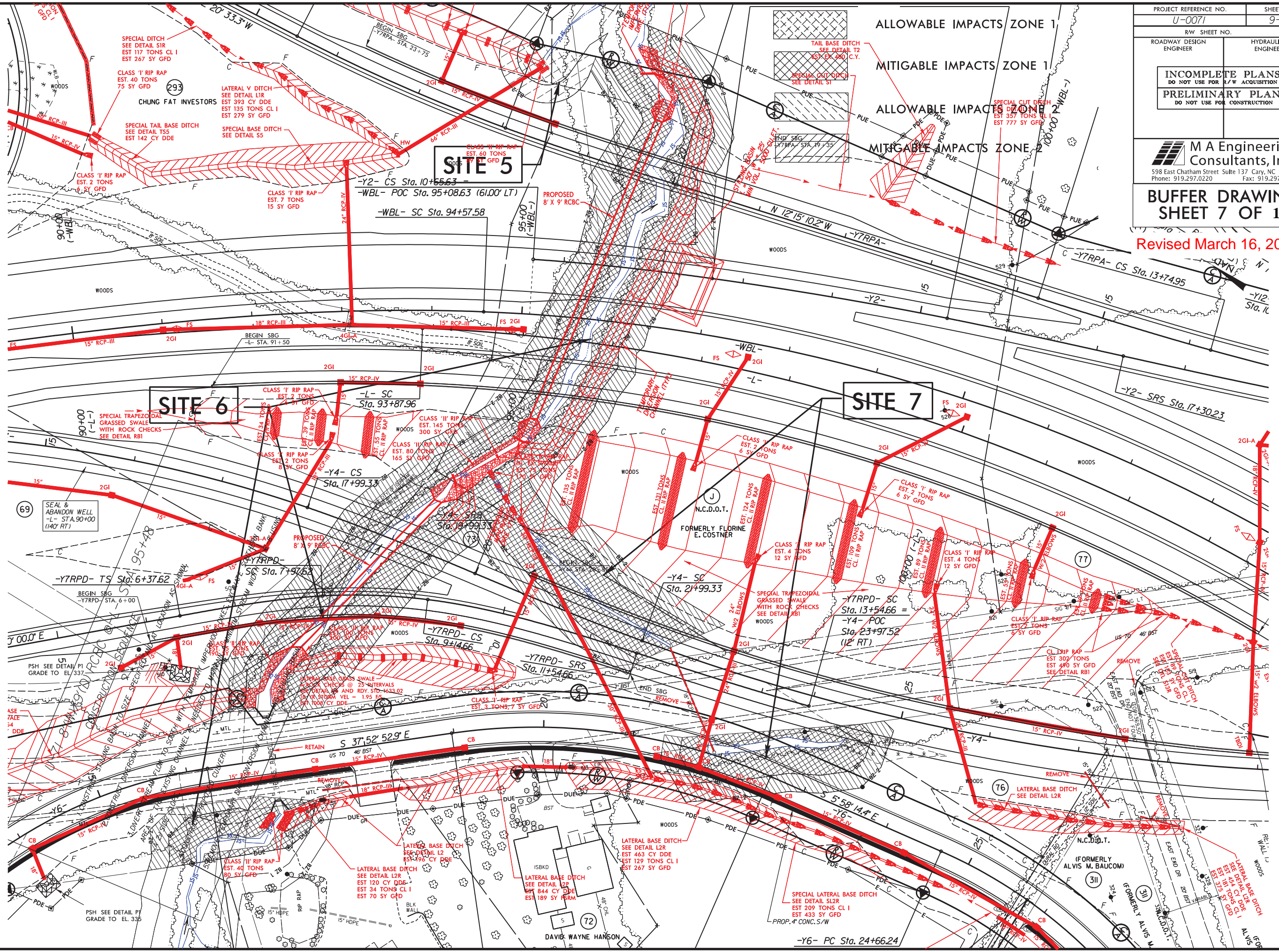
40' 00' 00.0' E

15" RCP-IV

CLASS III

PROJECT REFERENCE NO. U-0071	SHEET NO. 9-B
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR A/W ACQUISITION PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	
 M A Engineering Consultants, Inc. 598 East Chatham Street Suite 137 Cary, NC 27511 Phone: 919.297.0220 Fax: 919.297.0221	
BUFFER DRAWING SHEET 7 OF 18	

Revised March 16, 2015



REVISIONS

8/17/99
 2/5/2015
 User: permits PERMITS_Environmental\Drawings\0071_bud.com_bud_esta09B.dwg

BUFFER IMPACTS SUMMARY

SITE NO.	STRUCTURE SIZE / TYPE	STATION (FROM/TO)	IMPACT									BUFFER REPLACEMENT	
			TYPE			ALLOWABLE			MITIGABLE			ZONE 1 (ft ²)	ZONE 2 (ft ²)
			ROAD CROSSING	BRIDGE	PARALLEL IMPACT	ZONE 1 (ft ²)	ZONE 2 (ft ²)	TOTAL (ft ²)	ZONE 1 (ft ²)	ZONE 2 (ft ²)	TOTAL (ft ²)		
1	66" RCP-V	L 36+86RT to 38+71LT	X						41408	26834	68242		
2	30" RCP & 15"RCP	L 44+95 to 49+16 LT	X						22801	15534	38335		
3	30" RCP-III	Y17 12+93 to 13+97	X			2222	997	3219					
4	18", 48" & 60" RCP	SR2 32+99 to Y7 16+51	X						44620	35088	79708		
5	66" RCP-III	Y7RPA 21+27 to 22+32	X			2342	3142	5484					
6	TWO 8'x9' RCBC	Y7RPA 20+32 to Y7RPD 7+62	X						63171	38576	101747		
7	30" RCP-III	Y4 21+14	X						24286	16780	41066		
8	DITCH	Y5 23+24	STORMWATER MANAGEMENT			3438	1805	5243					
9	15" RCP-III	Y7 29+00			X				4340	6087	10427		
10	18" RCP-III	Y6 11+09			X				977	1780	2757		
11	PREFORMED SCOUR HOLE	Y12 10+00	STORMWATER MANAGEMENT				87	87					
12	15", 24", & 36" RCP	L 109+80 to Y2 29+08	X						77205	50757	127962		
13	8'x10' RCBC	Y3 34+44	X						27871	20229	48100		
14	30" RCP	Y3 40+73	X			7822	3210	11032					
15	60" RCP	Y9 27+33	X						13171	8861	22032		
16	60" RCP	Y3 57+71	X			7690	5252	12942					
17	6'x7' RCBC	L 133+41	X						36102	23110	59212		
18	DITCH	L 129+60	STORMWATER MANAGEMENT			2146	1897	4043					
TOTAL:						25660	16390	42050	355952	243636	599588		

N.C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS

DURHAM COUNTY
PROJECT: 34745.2.8 (U-0071)

2/20/2015
SHEET **18** OF **18**

Revised March 16, 2015